THE JOURNAL OF INDIAN ART AND INDUSTRY

PRICE TWO SHILLINGS.

Vol. XII.

JANUARY, 1907] [No. 97.

CONTENTS.

INDIAN JEWELLERY,

BY

COLONEL T. H. HENDLEY, C.I.E.

RAJPUTANA AND MALWA
(CONTINUED).

Illustrated by

Five Page Plates in Colours

and

Six Page Plates in Monochrome.

29A. 7

RAM SINGH DEL. MAYO SCHOOL OF ART, LAHORE.

Published under the patronage of the Government of India.

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In this exhaustive work an endeavour has been made to cover the whole known field of early carpet manufacture. The text (by Colonel T. H. Hendley, C.I.E.) is decorated in a style worthy of the charming designs illustrated; each page being surrounded with a beautiful 16th century Persian border in eight colours and gold. His Highness the Maharaja of Jaipur, with his well-known liberality, readily consented to allow his collection of old Persian and other carpets to be photographed specially for this work. From these carpets full-size patterns of the details, in colour of originals, have been prepared by Jaipur artists, also large "keys" showing the planning of the details in forming the schemes of design. In all cases the designs are on a large scale suitable for technical work. The best carpets and rugs now in the Indian and Persian Sections of the Victoria and Albert Museum have been photographed, including the beautiful Ardabil carpet* (see press notice).

* This carpet measures 34 feet by 17 feet 6 inches, and contains about 380 hand-tied knots to the square inch, which gives over 32,500,000 knots to the whole carpet. One-fourth of the carpet has been photographically reduced to half scale of original, and has been printed in the colours of the original to form 10 double plates (30 by 20 inches), and may also be obtained flat for mounting on linen, about 8 feet 6 inches by 4 feet 4½ inches, for Museums, Schools, and other educational or industrial purposes. The price of this part, or separate set of plates 101-125, for framing, is £3 net.

NOTE ON PERSIAN CARPETS. [*Daily Telegraph.*]

In the Indian section of the South Kensington Museum is now exhibited one of the most splendid examples of the product of the Persian loom that have ever been seen in Europe. This is the famous Ardabil or Ardebyl carpet, so-called from a Persian town in the province of Aderbaïdjan, which from time immemorial has been an emporium of merchandise, en route between Tiflis to Ispahan. Ardabil, which from the salubrity of its climate and the abundance of water which it enjoys has been called "the abode of felicity," is full of mosques and the tombs of exceptionally pious or otherwise renowned Mussalmans, and the famous carpet now on view is said to have been obtained from a mosque at Ardabil. It was not without difficulty that this wonderful piece of weaving was secured for South Kensington. The price demanded for it (£2,500)[1] exceeded that which the authorities of the Museum thought themselves justified to offer; but through the liberality of a number of gentlemen deeply interested in Oriental arts and crafts the sum which the Museum was prepared to give has been supplemented to an adequate amount. The carpet thus obtained for the nation measures 34 feet in length and 17 feet 6 inches in breadth, and an idea of the extreme fineness of its texture may be formed from the fact that it contains about 380 hand-tied knots to the square inch, which gives over 32,500,000 knots to the whole carpet. The main design comprises a large central medallion in pale yellow, surrounded by cartouches of various colours, disposed on a dark blue ground diapered with floral tracery. Each of the corners is filled with a section of a large medallion surrounded by cartouches. The border is composed of long and circular panels alternating with lobed outlines on a brown ground covered with floral embellishments, while at the summit of the carpet is a panel bearing a devout inscription tending to the inference that the carpet was originally used as a veil or curtain for a porch, and that it was the work of the slave "of the Holy Place, Maksoud, of Kashan, in the year of Hegira 946," corresponding with our A.D. 1540. Now, Kashan, on the high road between Teheran and Ispahan, was founded by Zobeide, the favourite wife of the Caliph Haroun-al-Raschid. It has been destroyed once or twice by earthquakes, but is at present a flourishing town adorned by a palace for the Shah, many large and beautiful mosques, and a number of caravanserais and public baths. At Kashan numerous manufactories of carpets, shawls, brocades, and silk fabrics are still carried on; but in 1540, when Maksoud, the slave of "the Holy Place," executed this marvellous work, admirable alike for its fineness of texture, its beauty of colour and symmetry of design, Kashan, with the rest of Persia, was under the sway of the Sophi dynasty, and the town is alleged to have contained no fewer than a hundred and fifty thousand inhabitants.

It is only within recent years that any very accurate knowledge of Oriental carpets has been disseminated in this country. The ordinary buyer knows three classes, and only three, which he roughly distinguishes as Turkey, Indian, and Persian carpets. The expert is, of course, a good deal more exact in his classification; but even his knowledge is as yet vague and confused. Carpets, either of cotton, silk, or wool, have during many centuries been used in the Orient, from the South of India to European Turkey, for domestic use, for the prostration of the praying Muslim, and for occasions of State. The carpets employed by the ancients are thought to have been of the nature of tapestry, and to have been chiefly used as loose coverings for couches rather than for floors. True carpets appear to have been early employed in Persia, and those called Turkish were no doubt originally of Persian manufacture, and were gradually exported and at length imitated in Turkey. Kernanshaw in Persia has still a carpet manufacture producing rich, soft, and beautiful goods, the sale of which adds considerably to the wealth of the province; while true Persian carpets are also made at Meshed in the Turkoman country and in Khorassan, and are justly renowned for the exquisite beauty of the patterns and the durability of the colours, which are purely vegetable dyes, comprising, among others, a green which is very difficult to make; it is conjectured to be a subtle combination of saffron and indigo. There is likewise a famous carpet manufacture carried on at Feraboun, near Teheran. The finest of all Persian carpets were formerly made at Herat, and one produced in the Chahal Minar at Ispahan largely exceeded in size the dimensions of the wonderful fabric at South Kensington, inasmuch as its length was a hundred and forty feet and its width seventy feet. The majority of these exceptionally vast and gorgeous products of the loom were destined either for the adornment of Royal palaces or the glorification of the holy Kaaba, or some scarcely less venerated shrine. Sometimes the entire interior of a mosque, such as that at Meshed Ali, was hung with superb carpets; and the Mihrab or niche towards Mecca was always a favourite object for such ornamentation. Mats or rugs of a much less costly nature were spread on the floors. With respect to the ordinary Oriental carpets, they may be roughly divided into two classes, the floral and the geometrical; and the former is the design affected by the higher and Aryan races, the last being preferred by the lower and Turanian races.

The beautiful Persian carpet at South Kensington may, it is to be hoped, become a most valuable factor in technical art education in this country. Some humourist once said of a Turkish carpet that its pattern resembled nothing visible in the heavens above or in the earth beneath, or in the waters under the earth; and, to a slight extent, this hyperbolical disparagement is justifiable in the case of the Turkoman carpets for which Vambery saw the old woman tracing the pattern in sand. The girls employed in carpet-weaving would obviously prick or chalk down on the particular piece of textile fabric assigned to them so much of the pattern as they were expected to weave, and these hasty sketches might in many cases deviate from the original model. Scores of workers were often employed in as many cottages in making these detached portions, which, when sewn together, may have presented a slightly mixed appearance, the incongruity of which was at the same time happily modified by the predominant traditions of design and colour which had come down to the people from remote ages. The pattern of the Ardabil carpet seems to be one perfectly distinct and regular, and, even did it present some slight obscurities, the puzzle could be easily cleared up by a careful and minute analysis and dissection of the whole work by the aid of practical geometry and conventional botany. It is curious to learn that, at the very period when Maksoud of Kashan, the slave of the "Holy Place," was completing the Ardabil carpet the manufacture of these commodities was first introduced into England by one William Sheldon, under the direct patronage of Henry VIII. The manufacture, nevertheless, was for many years exclusively confined to its use as tapestry or arras for the decoration of walls. The apartments of the palaces of Queen Elizabeth were hung with the costliest products of the Flemish looms, but her Majesty had certainly no carpets on the floors of her presence chambers or her banqueting halls. The floors were simply laid with rushes. The Oriental custom has always been and still is to employ carpets as hangings for shrines and porches, as coverlets for couches, and as rugs lying loose on the floor; and this sensible system, which has been largely adopted among us since the extension of the trade in Oriental rugs, will, in all probability, be still further developed by the technical as well as by the æsthetic teaching of the splendid carpet at South Kensington.

[1] Bought for £2500, of which £750 was contributed by A. W. Franks, Esq., C.B., E. Steinkoppf, Esq., William Morris, Esq., and J. E. Taylor, Esq.

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The Journal of Indian Art and Industry.

INDIAN JEWELLERY.

By COLONEL T. H. HENDLEY, C.I.E.

Part III.

RAJPUTANA AND MALWA OR CENTRAL INDIA (*continued.*)

Pundit Braj Balabh, who has been Head Clerk of the Jaipur Museum since 1880, and was engaged with the writer of these articles for eighteen years in making the bulk of the collections that are stored within its walls, has been good enough to draw up a list of jewellery which is worn in Rajputana, and for the most part in Malwa also. Lists of this kind, no doubt, involve much repetition because so many of the articles which are included in them are in use in other parts of the Indian Empire, but in discussing them it will be found that new ideas present themselves, and that suggestions, which may hereafter prove of value, frequently occur. The Pundit's list is therefore given in full, and will be accompanied by such observations as may seem necessary. For purposes of comparison the list will follow the order of that which is recorded in Part I., pages 2 to 5, which is descriptive of the ornaments worn by Musalman women as described by Jafir Sharif in the *Kanun-i-islam.*

Ornaments worn on the Head.—1. Bor, or Borla, *h.*: this is a stud of gold or silver. 2. Rakhdi, *h.*: the same as the Suraj or Sisphul, and Rakti. 3. Morpatta, *s.* and *h.*: a chaplet usually worn at marriages. The word is compounded from *mor*, *h.*, a chaplet, and *patta*, a leaf. The word *mor*, *s.*, however, also means a peacock, or a peacock's crest, which is very suggestive of its use. 4. Bindi, *s.*: a spot, dot or mark. Generally a forehead ornament which is attached to the hair or made to stick by some adhesive substance. The words bandi or bindi are also used for sectarian marks, such as women of good caste, as well as men, make with pigments or pomades of various colours and materials; and if of certain forms on the centre of the forehead, to indicate their caste or special object of belief or reverence. This subject is too large and divergent from the scope of the present articles for full treatment. The word may also perhaps mean the same as the Máng, or ornament for the centre hair parting. 5. Keshpásh, *s.*, from *kesh*, the hair, and *pásh*, a tie or fetter or a pin. A hair-pin, especially as worn by Mahratta women, who more commonly use it.

Ornaments worn on the Forehead or suspended from the Head.—1. Tilak, *a.*: This is more properly the sectarian mark, or an ornament which takes its place. 2. Tík, Tíka, Tiki, Tikli, Tikali: All these words mean specially a forehead ornament or mark, although they sometimes indicate a mark on other parts of the body; thus, for example, the words for inoculating for small-pox, or vaccination, are tika karna or tika dena. The tika is also a badge of sovereignty amongst Hindus, and the application of it upon the forehead of a new ruler is one of the principal acts at an installation or coronation. The right of applying this mark at an installation is a much coveted one. It is a privilege which represents some past deed of fame in the history of the house, or some acknowledgment of indebtedness, or it may be the recognition of the rights of former rulers or owners of the soil of the country. For example, in Meywar, the tika of investiture should be applied to the forehead of a new Maharana, or ruling prince, by a living Bhil from the blood taken from his own thumb. Amongst the nobles the heads of younger branches, although they may have become far more important and wealthy than the chief of the family from which they sprung, still look upon him as their head, who can alone apply the tika. So also large sums have been offered, though very rarely perhaps accepted, for such recognition by the man in whom the glories of an ancient family centre. The Raja of Manoharpur in this way, although comparatively poor, is acknowledged to be the *tikai* of the powerful Shekawat chiefs in North Jaipur, although they include the two far most wealthy landowners, the Rajas of Sikar and Khetri. The above observations point to the importance attached to the tika and its situation. 3. Ar: literally a screen or a horizontal line drawn on the forehead. The ornament is therefore in the form of a flattened plate. It may be of plain gold or gold set with jewels.

Ornaments worn on the Ears.—1. Phúljhumka: The compound word is derived from two words which mean a flower and a bell-shaped earring. 2. Karanphúl: a star-shaped earring which is fully described on page 3, Part I., in which a full account of the jhumka (the phúl jhumka being the same as the latter, or a modification of it) is also given. 3, 4. Bálá, Bálí, *s.*: small rings usually of gold. 5. Toti, *h.*: a parrot-shaped ring which is worn in the lobe of the ear. 6. Báta: an earring. 7. Kán-ki-laung: a clove-shaped ring. 8. Moti: pearl rings, or more properly, an ear ornament of three pearls. 9. Kúndal, *s.*: This is a large ring in which gems are fastened. It is also used to signify a ring with fish-shaped pendants. 10. Pipalpatti: Having drops shaped like the leaf of

the pipal tree (*Ficus religiosa*). 11. Patri, *s.*: Leaf-shaped rings. 12. Jhumka: Bell-shaped drops. 13. Chhel kari: Rings. The last four kinds of rings are worn on the upper part of the ear. 14. Murki: A small jhúmka worn in the little ear. 15. Latkan, *h.*: Any hanging drop; usually in the form of a grape. 16. Sánkal-kan-ki: Chain-like ear ornaments, sometimes called Jhálá.

Ornaments worn on the Nose.—1. Nath; and 2. Nathni: Described on page 3, Part I. The latter has usually a pearl or two in it. 3. Bhauriya: a nose ring. 4. Laung: a clove-shaped ring. 5. Latkan: a pearl pendant hung from the central cartilage of the nose.

Ornaments worn on the Neck.—1. Baleora: An ornament of flat twisted wire of from three to eight strings. 2. Gop, *h.*: This is a gold necklace of two or three strings of twisted wires. 3. Pachmaniya: an ornament of five pieces (from *pánch*, five), or sometimes extended to seven pieces. 4. Timaniya: A necklace with three beads. *Ti* is for *tín*, three; *mani* or *man* is a Sanskrit word for a gem, jewel, or a precious stone. 5. Teota: A necklace with one row of beads only. 6. Tusi, or Tulsi. 7. Hausli, Tonk or Tok. 8. Hár. 9. Mála. 10. Chandan-har. 11. Tilari. All the above are described on page 4, Part I. 12. Dora means a simple thread or string, often of pearls for example. 13. Jugnu or Jugnún: Any jewel worn about the neck.

Ornaments worn on the Upper Arm.—1. Bázu sadá: Bázu and Sáda are the Persian words respectively for arm and plain. An arm ring has long been one of the special signs of kingly dignity in the East, and perhaps especially so in Middle Asia and the kingdoms of which Persia was the heir. 2. Bázu-sar-Ghúndika: an armlet with a stud or button, or pendant. 3. Bázu-Tawiz: An armlet with an amulet. 4. Tád (local word, perhaps Tár, a wire).

Ornaments worn on the Wrist.—1. Biliya. 2. Kara. 3. Pahunchi. 4. Bangri or Bangdi. The last three are described at length on page 4, Part I. Pahunchi means the wrist. 5. Gujri or Gujarni, *s.*: This ornament is worn on both the hands and feet. The name is probably derived from the Gujar tribe, who are mostly shepherds and herdsmen in Rajputana. It has balls upon it. 6. Nogri or Naugari: A bracelet composed of balls or clusters of grape-like balls. 7. Kankan or Kangan: Described on page 4, Part I. 8. Chhanni: A bracelet. 9. Gokhru, *s.*: A bracelet enriched with bells; also worn on the ankles. 10. Jarao pahunchi: A pahunchi bracelet set with gems. 11. Gunthua-kara: A bracelet of strings or wires. 12. Náhar-ka-kara, *h.*, tiger-headed bracelet, or Azhdaha, *p.*, dragon-headed bracelet. These are technical names for bracelets or anklets, the heads of which terminate in the forms of the heads of animals. A full discussion on these ornaments and their antiquity will follow in a later number of the Journal. 13. Athpahalu-kara: Octagonal bracelets, or bracelets with octagonal or hexagonal heads.

Ornaments worn on the Fingers.—1. Hathphúl: Described in the list, No. 124, Part II. 2. Chhalla. 3. Anguthi, and 4. Arsi or Anguthi-arsi, are described on page 5, Part I. 5. Múndri: A Sanskrit word for a finger ring.

Ornaments worn on the Waist or Loins.—1. Kangati, a girdle. 2. Kandora: a belt or cord with bells, worn by children.

Ornaments worn on the Ankles and Feet.—1. Kara: Described on page 5, Part I. 2. Sat or Santh. A full account of this interesting ornament and of the mode of manufacture will follow. 3. Marethi, Marathi: This ornament, which is sometimes termed Sánkla in the Bombay Presidency, is worn by Maratha women, and is of comparatively recent introduction into Rajputana. It is a curb chain ornament, as the word Sankla, or Sankal in the Deccan, or Sánkal in Sanskrit denotes. 4. Neori: An engraved anklet worn by women of all classes in Jaipur; it is often made of silver. 5. Balwán-kara: This seems to mean a heavy anklet only. 6. Chhara: a local word. An ornament made up of chains which rest on the foot. 7. Ramjhol or Paizeb: Descriptions of this favourite ornament are given on pages 5 and 15 of Part I.

Ornaments worn on the Toes.—1. Amvat. 2. Bichhiya and Bichhni. 3. Chhalla. The foregoing are described on page 5, Part I. 4. Phulri: These are toe-rings with grape-like ornaments, which are worn on the toes and linked together to form sets.

A further account of some of the ornaments in the above list, and of a few additional ones, will be given in the description of the illustrations to the present article. The standard ornaments for the better classes are, as already stated, made of gold or at least of silver, and are often set with gems, in most cases being regarded as portable wealth. Every effort, therefore, is made to secure pure metal with as little alloy as possible; but, unfortunately, the aim of a large number of sonárs or goldsmiths, and jauharis or jewellers, is to make as much profit as they can, which end is usually gained by the use of a large quantity of alloy. So much is this the case that the dishonesty of these tradesmen and workmen has almost become proverbial. When only plain metals are employed, which may be very soon broken up again, there is, of course, less risk of fraud; hence such articles are preferred by the less wealthy; moreover, as jewellery set with gems, according to the opinions of Indian experts, ordinarily brings little more than half its original value, only the rich can afford to possess it.

In some districts, as in the United Provinces of Agra and Oudh, those who cannot afford even silver have their foot and wrist ornaments made of bell metal. The same classes in Rajputana more commonly use zinc, though throughout the country it is stated that German silver and American chemical or rolled gold are being substituted for base metal, imitation gems being used with the latter. Native designs of the most popular kind are copied in British territory for this purpose. The Bombay market is flooded with them, and some specimens are already found in the Rajputana bazárs.

Indian jewellers do not usually keep a large stock of gold or silver ornaments, as it would involve waste of capital which would be better employed in money-lending, which is an important branch of their business, as was the case in Europe for a long period. It is said, however, that if European customers wish to purchase such articles, the obliging dealer will take the ornaments of his female relations and dispose of them at a considerable profit, replacing them at leisure for another similar opportunity.

In Part II. reference was made to temple ornaments. It appears that it is customary for the founder or donor of a Hindu temple to present for the adornment of the image, when it is consecrated, both clothes, jewellery and many other objects. Favourite ornaments are such as contain the five or nine pure gems (Ratan or Ratna). Imitation jewellery is absolutely forbidden. The nine precious gems (Nava ratna) are as follow:—1. Diamond, Vajra or Hira, *s.*; 2. Ruby, Mánikya, Mánik, *s.*; 3. Cat's-eye, Vaiduram, Gomeda, *s.*; 4. Pearl, Múkta, Moti, *s.*; 5. Zircon, Gomeda, *s.*; 6. Coral, Vidruman, Múnga, *s.*; 7. Emerald, Marakatam, Panna, *s.*; 8. Topaz, Pushparágam, Pukhráj, *s.*; 9. Sapphire, Nílam, Nilmani, *s.* The names of the five precious gems (Pánch ratna) are:—1. Gold, Kanakam, Sona, *s.*; 2. Diamond, Kulisham, Hira, *s.*; 3. Sapphire, Nilam, Nilmani, *s.*; 4. Ruby; if under half a rati or ratti (one grain) in weight termed Padmarágam or Chuni, if over Mánik; 5. Pearl, Mankhtikam, Moti. Other authorities state that the five gems are—1. Gold; 2. Silver; 3. Pearls; 4. Lapis lazuli or Rája Vartam; 5. Coral.

There is a considerable trade in temple ornaments in the sacred cities of Mathura, Brindaban, Benares, Ajudhya, Kanchi, Ujain, Gaya, Dwarika, etc. The belief is universal in India that presentation of valuables to God (that is, to the temples) leads to eternal happiness. Pandit Braj Balabh quotes the following:—(Hiranya da Amritwam bhajante):—"The giver of gold enjoys eternal life in Heaven." (Bibliotheca Indica). "One obtains everything by offering. Long life. A devout pious man of beauty and not a sinner is born." (Sáma veda Upanishad). "Givers are high in Heaven. Those who give horses live conjointly with the sun. Givers of gold enjoy eternal life. Givers of clothes live in the moon." (Rig Veda). "By giving gold, the giver receives a life of light and glory." (Hárito Smriti). "Coral worship will subdue all the three worlds. He who worships Krishna with rubies with devotion, will be reborn as a powerful emperor." If with a small ruby he will be born a king. Offering emeralds will procure Gyana or Knowledge of the Soul and of the Eternal. If with a diamond, even the impossible or Nirvana, that is, Eternal life in the highest heaven, will be secured. If with flowers of gold a man worships for a month, he will get as much wealth as Kuvera, the Lord of Riches, and will hereafter attain to Nirvana or Absorption in the Deity, and Muksha or Salvation.

The daily worship in a Hindu temple consists of sixteen offerings or parts, each accompanied by ceremonial. Offering valuable gold ornaments, gems and jewellery is the ninth (Abharanani) of the sixteen offerings (Upachára) which collectively make up the worship or Puja. Two of the stages are omitted when an image is permanently consecrated in a temple, as the deity is then supposed to remain always present in the idol. These are the first or respectful invitations of the god to be present or Asanam, and the last, viz. dismissal or Wisargah.

In the Bhágavat Purana, Krishna says "Whatever is best and most valued in this world, and that which is most dear to you, should be offered to me (i.e. God), and it will be received back in immense and endless quantity." This is devoutly believed by Hindus throughout India to this day; hence the quantity of valuables, especially of jewellery, presented in the temples by all classes is enormous. Gold mohurs (coins), precious ornaments, rich clothes, Kashmir shawls, quilts or rezais, elephants with gold and silver trappings, chamaras or plumes of yaks' tails, utensils of gold and silver, and bowls of gold set with gems to contain the food which is offered to the god, are amongst the gifts. All classes devoutly believe in the need and advantages of such offerings. It is therefore not uncommon to hear of a man and his wife presenting all their personal ornaments to a shrine. Only a few weeks ago, the wife of a Jaipur noble, for example, gave all her gold and silver jewellery to a temple, and such is being done everywhere in India to this day.

Ornaments which are specially made to fit an image in a consecrated shrine are usually kept until they are broken or damaged, and are then remade with a little addition if it can be afforded. The image is decorated with its best ornaments on special occasions, such as the birthday of the god, the day on which it is swung or the Hindola festival, the Diwali, the Holi procession days, etc., of which a full detail would be out of place here. After the ceremony is concluded, the special ornaments are returned to the temple treasury, and only the ordinary

or Mámúli jewellery is used.

There is a definite time after which offerings become Nirmálya, or unfit for use; thus, for example, food cannot be twice offered, jasmine flowers after three hours, and so on, but gold flowers are fit until broken or damaged; ornaments of the five or nine gems, last at least twelve years. Clothes, as a rule, are nirmálya after a month, and must then be renewed, and may then be sold or given away, as may be jewellery which is no longer in use. There is no restriction as to the persons to whom it is given or sold, but no doubt the devout would be preferred, and indeed would give a higher price for objects of this kind which have become "Prasádi," or holy.

Ordinary jewellery and offerings which are presented at the shrines are simply regarded as so much wealth which the priest or headman, or steward of the god, whoever may have the control, can dispose of for sacred uses, such as feasting Brahmans, celebrating temple festivals, or maintenance of worship generally. Hard times, however, may demand sale of even the personal ornaments of the images, as indicated in the last paper. Some persons who acquire temple jewellery, for religious reasons give it away to poor and pious Brahmans, or as a Homa or fire offering, or as a present to a Sadhu or devotee, who may dispose of it for food; though in these days it is more common for the priests to sell such treasures for the highest price. As regards Rezais, or quilts, which are given away at Náthdwara, to which reference was made in Part II, pilgrims prefer making their charitable gifts in this way, because direct gifts to a beggar, for example, may lead to misuse of their presents and indirectly to some religious demerit to themselves. If the gift, whether it be a quilt or gold, is subsequently given from the temple, no such loss of religious merit accrues to the pilgrim. This is, therefore, a much less dangerous course than direct presentation to the poor. Moreover, if gifts are given to holy men, such as ascetics at sacred places, half the merit goes to the donor; the god becomes responsible and not the donor.

It would be impossible to give a complete account of Rajputana jewellery without adverting to the manufacture of enamel on gold for which Jaipur especially is renowned. A small amount of enamel may be made in other places in the Province, but when a rich patron, whether European or Indian, wishes to obtain a work of art in Indian enamel it is only Jaipur work that he desires to possess. In 1886 I wrote the text of a work on Jaipur Enamels,[1] for which Colonel S. S. Jacob, R.A. (now Sir Swinton Jacob) supplied the coloured illustrations, which had been carefully prepared for him by Ram Bux, son of Esar, one of the best local artists. Some account of the work was also given in the second number of the *Journal of Indian Art* and in the *Memorials of the Jaipur Exhibition.*[1] A brief summary of the subject is all that is necessary on the present occasion.

Enamelling at Jaipur is done on gold, silver and copper, but work in the most precious metal is that for which the place has obtained the pre-eminence, and particularly for the beauty of its glowing red colours. Enamel on gold is also done at Ulwar, Delhi and Benares, and at the second place especially as the backing of plaques in bracelets, etc., and as setting for gems. Silver enamel is produced in many places in the Panjab, including Kashmir, in Hyderabad and Karachi in Sind, in Kachh, and at Lucknow. Copper enamel is made in Kashmir, and in many places in the Panjab, as well as at Jaipur.

The history of enamelling does not need discussion in this article. The manufacture in Jaipur is said to have originated with Maharaja Mán Singh, the friend of the Emperor Akbar, who lived in the sixteenth century, and who brought five Sikh enamel workers from Lahore. The principal enamellers in that capital are all said to be descended from these artists, and one of them, an old man named Ghoma Singh, might have been seen patiently at work at the Exhibition which was held at the time of the Coronation Durbar at Delhi in 1903. Reference is made to the art of the enameller and some details of the work are given in the *Ain-i-Akbari*, or Institutes of Akbar, which was written by the learned Abul Fazl, the great Moghul Emperor's minister.

A great treasure of the Jaipur family is the enamelled gold staff of the famous Maharaja Mán Singh. Its colours have never been surpassed, as may be judged from the illustrations of it which accompany the works above referred to. The Jaipur enamel is of the variety termed champlevé, in which the outlines are formed by the plate itself, while the colours, which are oxides of various metals, such as cobalt and iron, are placed in depressions hollowed out of the plaque to receive them, and are firmly fixed to it by fire. The amount of heat required to fix the colours varies, so that those which stand the highest temperatures have to be applied first and the more fugitive hues last of all. Every time the plate is passed through the furnace (and in an important piece in which there are many colours the number of times is great) the risk is increased, because some of the colours may fly; hence the cost of enamelling generally, and in large specimens in particular, is heavy in proportion to the materials. This is not always recognized, but to those who are acquainted with the facts, and to all lovers of beautiful work such as this, which can only be perfectly accomplished by a patient, experienced and true artist, the value of enamel is greatly enhanced. It may, perhaps, be of use to refer to these points, because there are few persons, especially amongst jewellers and dealers in Indian enamel, who realize them; hence we hear of such cases as

[1] Published by Mr. Griggs.

the following:—A large quantity of ancient and most artistic Indian enamelled jewellery was recently sent to a London firm for disposal, and it was decided to break up the settings for the sake of the gold, although as art illustrations to Museums and Schools of Art they would have been invaluable. Their priceless worth for this purpose was recognized too late. Fine specimens of enamel were taken to a great establishment to be valued, but the officials attached no importance to the enamel, and estimated the worth only of the gold and gems in the ornaments.

The preparation of an enamelled ornament is an illustration of that co-operation which, notwithstanding the example of such masters as Benvenuto Cellini and others, who were familiar with and practised every branch of their art, has, perhaps, always prevailed. The so-called jeweller, really the dealer, who in Jaipur is just as often a money-lender and banker or capitalist, causes a design to be prepared by a *chitera* or artist, who knows the capabilities as well as the limits of the art of the enameller. He then hands it to the *sonar* or goldsmith, who forms the article to be enamelled. It is then passed on to the *gharai*, the chaser or engraver, who engraves the pattern, hollows out the plate, and hatches the floor of the pits to increase the play of colours of the translucent enamel and to cause it to adhere with greater tenacity. The above-named workmen are usually members of the goldsmith or carpenter sub-castes of Hindus and not Sikhs. The enameller, or *minakár*, who is a Sikh, first cleanses and burnishes the plate and then applies his colours in the order of their hardness or power of resisting fire, beginning with the hardest or that which most resists the fire. Some of the colours can be heated at the same operation; others are so sensitive as to require to be dealt with alone. All this is a matter requiring much experience and time.

All the colours which are known can be applied to gold. Black, green, blue, dark yellow, orange, pink, and a peculiar salmon colour can be applied to silver; and only white, black and pink to copper. In the order of hardness the colours are white, blue, black, yellow, pink, green and red, the pure ruby red of Jaipur being the most fugitive, and the most beautiful in the eyes of experts.

The colours are mineral oxides, which the Jaipur enamellers always obtain from Lahore in opaque vitreous masses. The piece, after it is fired, is polished with *kurand* or corundum, and if it is then found to be defective the work must be done over again. The last process is to repolish the ornament, to heat it gently, and to cleanse it by pickling it in a strong acid solution made from fruit. From the enameller the article, if it has to be set with gems, goes on to another workman, according to the special style of setting which is required.

It was remarked that "The uses to which enamel is put are very varied. All the better kinds of native jewellery are enamelled on the back, and usually, also, on the edges and between the gems in front. Charms, armlets, anklets or bangles, and necklaces are made in large numbers; and, for the use of princes and nobles, the handles of swords, of daggers, or fans or umbrellas, of whisks of yak-tails (*chamaras*), of fans (*morchals*) of peacock's feathers or of ivory threads, and sometimes vessels are prepared. Horse, camel and elephant trappings have also been adorned with gold enamel; in short, when gold and jewels can be employed for enriching metallic surfaces, enamel is equally available, and with precious stones, it can also be used as a foil or to enhance their beauty."

All such articles may be regarded in some degree as jewellery. To them may be added combs, spear shafts, portions of the ankus or elephant goad, shields, snuff boxes, and articles of plate, such as 'atrdáns or perfume holders, salvers, cups and saucers, spoons, trowels used for ceremonial purposes, pen boxes and inkstands, some of which have been made in the form of boats shaped like a peacock with an enamelled tail, which is particularly calculated to display the beauties of the enamel. Many such sumptuous examples of the art have been made at Jaipur for presentation to princes or for exhibitions, and large numbers of them have been shewn in the great Exhibitions and in Museums.

In the work on enamels above quoted, lists of ornaments and current prices at the time were given. Many of the articles, such as lockets, rings, bracelets, breast-pins, watch-cases and charms are made in European shapes to meet the demand for them, but the enamel shows best on some of the purely Indian forms. Indian is superior to Persian enamel in the richness of its colours, in the harmony with which they are employed, and in the artistic skill with which they are combined or contrasted.

To be acquainted with the processes, some of which are supposed to be more or less secret, is not sufficient. There is no art which depends more for its quality and beauty on the individual skill of the artist than this; hence there has been much variety in the charm of even the best specimens of Jaipur work which have been exhibited. Moreover, it is probable that there are no such skilled workmen alive at Jaipur at this time as there were thirty years ago. It is to be hoped that equally talented artists may yet be found amongst their descendants.

There is another manufacturing process, which is specially practised in Rajputana and Malwa, that is of some interest. A paper, which I prepared at the request of Mr. (now Sir Purdon) Clarke, on "The Process

employed in Casting Brass Chains in Jaipur, Rajputana," was read by him before the members of the Iron and Steel Institute, and was published in their Journal in 1886.

Amongst the illustrations to that article and in those which accompany the present one, will be found a number of specimens of a peculiar anklet which is known as a sánt, or sánth, which is made up of flat links formed at one casting in Southern Rajputana and Central India, and especially at Siwai Madhopur, a Jaipur town beneath the famous fort of Ranthambhor, which stands in the hills near the junction of the Banas and Chambal rivers. The ornaments are made by the *cire perdue* process in a most ingenious manner, a *resumé* of which is now taken from the paper referred to above. In a lecture to the students of the Royal Female School of Art in London, in 1901, Sir Thomas Wardle also refers to this subject in the following words:—"The skill in India in making brooches and bangles out of silver rupees is astonishing, full of pattern and flowing form. Their casting of the baser metals is an art. I bought for a few annas a bronze chain anklet with every link in it loose, but all cast in one mould together, quite a common-looking thing, but so wonderfully made that one of our best foundry owners told me he did not think anyone could do it in Europe." This opinion was also held, it is said, by many of the experts who heard the paper which was read at the Iron and Steel Institute. Probably the best idea of the process will be obtained from Plate 34 of this part, in which is represented, in a series of drawings, all the different stages of manufacture. It is a copy of the original illustration which was prepared for the Journal.

The ancestors of the Siwai Madhopur workmen came about 120 years ago from Bundi, an old Rajput capital some miles to the south of the Jaipur State. The anklet is termed sánt or sánth from Hindi words signifying joining or sticking. Three principal varieties of the ornament are made at Siwai Madhopur:—1. Sútwan Sánth, in which the pattern is of plain or thread-like links. 2. Chaktidár Sánth, having small patches or projections upon its edge. 3. Kil-kunda-ki Sánth, which is fastened by a screw. A mixture is made of seven parts of wax, forty parts of resin, and eleven parts of oil of sesamum, which, after melting, is strained into cold water. The mass subsides and a portion is pulled out and rolled on a board into a thin string of the thickness of the future links of the sánth. This string is coiled round a stick, the width of which has the diameter of the proposed links. By a cut along one edge of the spiral, a number of rings open at one side is formed. These rings can be united by applying to them a hot knife edge. One ring is made and a second is linked into it. The ends of a third ring are then passed over the first two and joined, and a fourth ring is passed through the last two and its ends are joined. Thus the process is continued until sixty or seventy rings, or sufficient to form an anklet, are united. The curb chain thus formed is flattened out on a board and the ends are joined together. A little manipulation with the hand, the wax being kept pliable by hot water, ensures a firm, flat and regular ornament which is indeed a facsimile of the metal anklet which it is desired to make. A thin paste of fine clay, cow-dung and water is then prepared, and the wax sánth is dipped into it four or five times, being dried after each operation, until a thick coat of clay covers every part of it. A thicker paste of the same materials is then made to form a mould; three coats are required. When the mould is dry, its upper edge is scratched with an iron tool, so as to expose the links within. The links are oiled, and a thin strip of wax or a leading line is attached to them along one edge by means of a hot wire. All inequalities are carefully removed, and the whole is covered again with clay paste, which is allowed to dry as before. A quarter of an inch of the top of the wax sánth is left exposed, and to this is attached a thicker ribbon of the same material an inch long, so that the ribbon, the leading line and the links are continuous, though the latter are quite separated from each other. Two anklets are cast together side by side, and are so placed that the leading lines on each sánth are next to each other, and the two end ribbons are also close together at the top. Three thick coats of clay paste are applied to the pair of prepared wax sánths, so as to form one strong mould, which is further enclosed in a coating of thick black earth mixed with chaff, so as to prevent cracking of the moulds and loss of metal. The top of the mould over the projection which contains the ribbons is formed into a cup. A small conical cup or *mus* is now made of black potter's earth, and a sufficient quantity of pieces of the metal of which the anklet is to be made are put into it with a small quantity of borax. The *mus* thus filled is then inverted over the cup-shaped top of the mould in which the ends of the wax ribbons have been left exposed, and the edges of the two are united by the black clay and chaff composition. A blow-hole is made near the top of the mould so as to allow escape of the wax and of gases.

The kiln is an open furnace or pit filled up with dried cow-dung cakes. The moulds are placed upright in the furnace with the *mus* downwards, and are made red-hot by means of primitive bellows. After a time, the wax escapes in black fumes and the metal melts. The moulds are quickly removed when the metal is thoroughly melted, which is known by the appearance of blue fumes. Cracks from which fumes escape are carefully plastered over with clay, and the mould is then dipped for an instant in cold water, after which it is inverted. The melted metal now pours into the cavity and takes the place of the wax which has been burnt out. When the mould is quite cold, it is broken up so as to expose the anklets; the leading lines and

ribbons are removed, and all inequalities or adhesions are filed off, so as to release the two sánths, of which all the links are freely movable. The metal usually employed is a composition which is known as *kánsi*, or bell-metal. It is composed of sixteen parts of brass and six of zinc. Another mixture is made of sixteen parts of the above with four additional parts of zinc. A third consists of old and broken anklets. From the first mixture (or *dhárkri* in the local technical language) a yellow sánth is formed. If equal parts of *dharkri* and old anklets are used, as at Siwai Madhopur, a white sánth is produced.

The sánth may be plated with a mixture of pewter or *rang*, 40 parts, and of hydrochlorate of ammonium (*nausádar*) 1 part. The pewter is composed of three parts of zinc and two of lead. An analysis of two samples of the material was made by Mr. Edgar Jackson for Mr. Clarke :—"The brass contained : tin, 3.53 ; lead, 3.49 ; copper, 46.33 ; zinc, 45.98 ; iron, .76 parts. The pewter was composed of : tin, 38.16 ; lead, 61.74 ; and a trace of copper." A small portion of the composition is applied to the sánth by heat, and the ornament is then cleaned and brushed with cold water.

The *cire perdue* process thus described is an ancient and delicate mode of casting bronze. It is, therefore, very astonishing to find it so beautifully and carefully carried out by uneducated people in remote parts of India.

Garnet Jewellery.—For many years past there has been a large trade in garnets, which are found in numerous localities in Rajputana. The best stones are now quarried in the south-west corner of the Jaipur State, not far from Rajmahal on the Banas river. The matrix, in which the crystals are embedded, is chiefly mica schist, gneiss, and serpentine. The selected stones are generally formed into carbuncles or cabochons, which are known as "tallow tops" in the trade, because they are convex above and concave or flat below, and resemble drops of tallow. Many stones are also cut into facets for rings, necklaces, bracelets, etc., and a special class of workpeople in Jaipur is employed in stringing them on silk for neck and wrist ornaments. Garnets are also found in the Udaipur and Kishangarh States, as well as in the British District of Kashmir, but the superior quality of the Jaipur stones, and the extensive way in which the mines are worked in that State, have almost extinguished the industry in other localities. A full account of the industry was given in Part II. of the *Journal of Indian Art* in 1884. In the writer's Handbook of the Jaipur Courts at the Indo-Colonial Exhibition of 1886, it was stated that garnets are often found on the surface, but most frequently as far down as sixty and even eighty feet. The crystals are usually of dodacahedral form, and large gems are often found ; as, for example, a very clear stone, cut *en cabochon*, which weighed 2.77 ounces, was shewn at the Exhibition. There appears to have been a small trade in Rajputana garnets as far back as seventy years ago, but this increased enormously when a State factory, which was under Mr. S. Tellery, was established at Jaipur. It gave employment to a large number of workpeople and flourished, but for various reasons it was abolished, and the trade was again left in the hands of private individuals. Garnets were formerly exported in the rough to Europe ; but after the workers, who were chiefly boys, had been instructed in the State workshops by a skilled lapidary, large quantities of cut stones were exported.

The Rajputana garnets are similar to the Pegu or Siriam stones, or the commonly called amethystine or Oriental garnets. The garnet, according to a great authority, possesses all the virtues of the noblest gems, except rarity, and consequent intrinsic value. The carbuncle form is the best for displaying the peculiar fire and beauty of the gem. Strictly speaking, the designation "tallow topped" should be applied to stones with a flattish convex surface, but it is used more generally as stated above. In 1882, the annual exports reached as much as Rs.70,000, of which Rs.52,500 were for cabochons, and the remainder for rough stones ; yet Streeter, in his work on "Precious Stones and Gems," in 1892, does not mention Rajputana as a source of the stone, though he refers to its abundance in the neighbourhood of Ragavaparam in the Kistna district of Madras, and to its general prevalence in the gneiss of Ceylon.

The hardness of the stone varies, according to Emanuel, from 6.5 to 7.5. It scratches quartz slightly, and is scratched readily by the ruby or sapphire. The facet-cut beads are rather apt to suffer when worn, as they often are, without any setting in long strings. The carbuncles are largely exported to Switzerland, Germany, England, Italy, Austria and France, to be used for ornamental purposes and in jewellery. The violet or almadine garnets are much admired in France. Rough stones are used in watch-making.

The Indians do not seem to have used the garnet to any great extent, though it is considered to be an auspicious stone and a herald of good fortune. Dr. Church, in his classical work on precious stones, in writing of the setting of gems, remarks as follows :—"There should be contrast of size and shape as well as of colours, though not too violent. Two ways of treating the garnet have been successful, viz., plates so largely found in Anglo-Saxon and Celtic jewellery, which have lasted, and afford in their breadths of soft rich colour, a pleasing contrast to the minute filigree, granulated and enamel work with which they are generally associated, and the other" as "a carbuncle not necessarily foiled at the back." "There is a lovely disc of antique gold set with five

carbuncles in the Room of Gold Ornaments and Gems at the British Museum... of" which "the effect is delightful; simple, yet rich; solid, yet elegant."

The above extract shows what the garnet is capable of. The best setting is in gold, and a great deal of beautiful jewellery so treated was sent to the Indo-Colonial Exhibition, and a large case of it is shewn in the Jaipur Museum. Much of it, however, is of pure European type and some of it is inartistic and even objectionable, but in the hands of true artists the stone present facilities for obtaining the most beautiful effects at comparatively little cost. Cheap ornaments were set in silver at the Jaipur factory and had a large sale amongst the poorer Europeans in India, and especially to soldiers, and large quantities were also exported for sale to the peasantry of Central Europe. The lower classes of Mohamedans seem to be rather fond of silver studs and buttons set with garnets. The stone is also much used for enriching small articles of silver plate. It is proposed to give some illustrations in this branch in the article on the Punjab, as there is a considerable sale to tourists of garnets and carbuncle beads, and other kinds of jewellery, at Delhi, where the stones are also cut and fashioned.

Amongst miscellaneous Rajputana ornaments the following should be mentioned:—Cocoa-nut bracelets from Rutlam, which are grooved to receive thin plates of silver, some of which are embossed with simple floral patterns. Shell bracelets similarly grooved in the above manner for the reception of silver or gold plates. Some of these were found, with ivory bracelets of the same kind, twenty feet below the surface on an old Buddhist site in the Sambhur Lake, and the fashion of wearing them still maintains, as before stated, in Western Rajputana. In the Jaipur Museum there is also a pair of jeweller's scales formed of thin silver pans and having a very delicate steel beam. The weights were made of agate, and in order to guarantee their accuracy, a small feast had to be given to the jewellers' caste. The split-ear ascetics, or Naths, who specially profess to be devoted in Marwar to the worship of Shiva or Mahadeo, wear in the ear large flat circular glass rings as much as 2½ inches in diameter. At Tonk, in Rajputana, armlets and bracelets are sometimes made of beads of different forms, which are cut from crystal. Beads of different forms are also found in fairly large quantities on some ancient sites in Rajputana. They are very similar to those which are exhibited in the Assyrian and Babylonian collections in the British Museum. At one spot, which was known for its wealth in such articles as the Taksál Tila or Treasury Mound, a part of the site of an old city, probably Buddhist, now called Nagar, in the property of the Raja of Uniara of Jaipur, in a very short time that noble and I picked up a handful of perforated beads, worn copper coins, and chips of carnelian, obsidian, garnet, jasper, etc. I described similar objects which I found on an old site, no doubt Buddhist, in a contribution to the Journal of the Royal Asiatic Society of Great Britain and Ireland in 1884. Similar beads, many of them threaded in necklaces, will be found in a collection formed by Mrs. Rivett Carnac, which is described and illustrated in an earlier part of the *Journal of Indian Art.* It is proposed, moreover, to revert to this subject in a later number of the present series of articles.

DESCRIPTION OF THE ILLUSTRATIONS IN PART III.

PLATE 25.—186. Portrait of H.H. Maharaja Anand Rao Puar, who ruled over a State 1740 square miles in extent. He and the Maharaja of Gwalior, as in the next portrait, wear typical Mahratta turbans, and in the former case associated with strings of pearls. The necklaces of the Dhar chief are numerous, and he wears the K.C.S.I. badge as well as the C.I.E. decoration. 187. Portrait of H.H. Maharaja Jaiji Sindhia, who, besides being a member of several orders, was an Honorary General in the British Empire, and like other princes of his time, was made a Councillor of the Empress of India and C.I.E. when Her Majesty Queen Victoria was proclaimed under that title at Delhi in 1877. He was a great soldier and cared more for reviewing troops than for jewellery. His State was the largest in Malwa and was 29,046 square miles in extent. 188. Portrait of H.H. Maharaja Tukaji Rao Holkar of Indore. The original, by Carpenter, is in the Indian Section of the Victoria and Albert Museum, and represents the chief as a young man wearing little jewellery. He was an astute prince, and ruled over 8,400 square miles of territory. 189. Portrait of H.H. Maharaja Raghuraj Singh of Rewah. He was the head of the Baghela Rajputs, who have been established in or near Rewah in Baghelkhand since about 1057 A.D. He was the thirty-first chief of his house. In his crown, orders, and G.C.S.I. cloak he looked a most imposing figure. He had a great collection of hookahs, many of them being of much value and beauty. Some of the finest examples of these treasures, in gold, enamel and gems, were illustrated in the "Memorials of the Jeypore Exhibition." His State is 13,000 square miles in extent.

PLATE 26.—190. Enamelled gold back-scratcher, or *pushtkar*. The following is the description given by me in my work entitled "Ulwar and its Art Treasures," which was published in 1888, and from which the plate is copied. The article is in the Ulwar Treasury, or Tosha Khána:—"Plate L. Back-scratcher, *pushtkar*, gold enamelled. A gilt hand is attached to a long slender staff of gold, which is beautifully decorated with designs in

enamel, chiefly animals, birds and flowers. It is intended to be used for scratching the parts of the back which are concealed beneath the clothing." Further on in the same book I remarked that "The *pushtkar* may seem to be a vulgar ornament, but the Indian is only following the example of the European exquisite of the last [18th] century, who employed an ivory or ebony back-scratcher for exactly the same purpose." I am inclined to think the specimen was made in Persia. The tones of colour are lower, and the designs are more minute than is usual in Indian enamel work. It may, however, have been made in Delhi. Back-scratchers were perhaps necessary in Europe at a time when the dress, especially of ladies, fitted very closely to the body, and the bath amongst all classes was rather dreaded. In any case, an article of the kind, which could be carried like a fan and which formed such a great opportunity for enrichment with gems or enamel, might well be adopted even if not often required. Traces of the old fashion are found in out of the way places in India, as at Cuttack, where back-scratchers are made for the curious of horn; or as at Murshidabad of ivory; and at other places of sandal-wood inlaid with ivory or of ebony. An object of this kind, even in Ancient Egypt, was made in the precious metals. In the vestibule of the Gold Room at the British Museum, for example, there is a small hand in gold with the fingers stretched out. Whether, like the hands borne on staves by the Shiah sect of Mohamedans, it was a symbol or had any other special use is unknown. Perhaps it is worth mentioning that at the Exhibition of Jewish Art and Antiquities in Whitechapel (November, 1906), many very beautiful pointers, or rods, terminating in a hand with one finger outstretched, are being shown. They are used by the reader of the Sacred Law to enable him to easily follow the text. Many of these specimens are made of the precious metals, silver or silver-gilt, and richly jewelled; some have gem-set bracelets; others are made of onyx, carved wood, or ivory; and to most of them a chain of gold or silver is attached. These splendid objects were made in many different lands, and the collection forms a valuable study of the goldsmith's art at different periods and in different places.

PLATE 27.—The illustrations in this and in some of the following plates are reproduced from some of my former works, which, as I have previously observed, have a limited or special circulation, owing either to the small number published on account of their great cost, or, as in the case of the Museum Handbook, its local usefulness. Nos. A.191 to A.196 are taken from "Jeypore Enamels," for which Lieut.-Colonel (now Colonel Sir Swinton) Jacob supplied the plates and I wrote the text. It was published by Mr. Griggs in 1886. Nos. B.197 to B.201 are taken from the "Handbook" which I compiled in 1898, and which was also brought out by Mr. Griggs. In all cases the original descriptions are quoted, with such additions as may seem desirable. A.191 to 194. Necklace pendants. They are really hollow cases or boxes with front and back plates, between which is a composition made of two parts of alum and one of salt, heated together, or of resin. The double plaque is about one-eighth to one-sixth of an inch thick. 191 is the middle pendant of a beautiful necklace, the chain of which is composed of roses attached to each other by small links. The pendants vary in shape, but the one selected is of Turanian or Central Asian form and is enriched with floral ornament in the modern Jaipur style. 192 and 193 are somewhat similar to 191, but the second is attached to a delicate chain of oval and quatrefoil ornaments. The necklace of which 194 is the second pendant, has a chain like the last. It has a bird in the centre. It is of octagonal shape (*athpahlu*). It is usual, the description goes on to add, "to enamel one side in gold and to enrich the other with the quasi-enamel of Partabgarh in Rajputána, in which quaint figures are cut out in gold and applied to a deep emerald-green glass ground. The necklaces, in most cases, can be worn with either side uppermost. Sometimes the backs of the plaques are enamelled in gold, and the design for Hindus is generally one shewing the impression of two feet, with the words 'Sri Náth Ji,' or 'Honour to Sri Nath' (the revered lord), a form of Krishna worshipped at Nathdwara in Meywar or Udaipur." There is a very beautiful manuscript copy of the Gulistan or "Rose-garden" of Shaikh Sa'di of Shiraz, which was prepared for Maharaja Banni Singh of Ulwar, by Agha Mirza of Delhi. The borders of the pages were designed by Delhi men, but the beautiful illustrations were the work of Ghulam Ali Khan and Baldeo, artists of Ulwar. Most exquisite studies of birds and animals are painted in little medallions in the borders, which may have inspired the artists of the pendant just described. I dwell upon this subject because there is some indication here of an approach to the higher and more artistic treatment of jewellery which is seen in the pendent jewels of the 16th century in Europe, and in the most modern studies in France. The beautiful Arabic and Persian characters, it occurred to me, might also be used with advantage for brooches, and a few clasps or long brooches of that kind were made, at my suggestion, in gold enamel for the wife of one of the Indian Viceroys. Examples of the former may be seen in the Waddesdon Room of the British Museum. 195, or the Arya, is a neck or forehead ornament of regal design, reminding one of Assyrian jewellery. It is peculiar to Marwar, a country in which many relics of ancient art and custom still exist; thus, for example, the royal dance of Marwar (or Jodhpur), the Ghanna, in which the performers move in circles, was noticed by Nicolo-a-Conti, the Venetian traveller, in the fifteenth century. There is a rich and noble appearance in this ornament which is very magnificent. 196. This is one of eight designs of balls attached to bands of gold, all

richly enamelled, so as to form, perhaps, rather uncomfortable, though at the same time highly decorative bracelets. The remaining examples in the plate are taken from Plate VI. in the Jeypore Museum Handbook, the originals being exhibited in that institution. Although the enamel is largely employed for ornamenting jewellery, it has been thought that it would be better understood if larger specimens were illustrated, as for example : B.197, A silver enamelled vase, or abkhora, from Bahawalpur in the Mohamedan state of that name in the Punjab. Numerous colours, especially orange and red, are introduced with good effect, though it is difficult to apply these hues to silver. The hair ornament (200) and the button (201) both came from Multan, which is not far from Bahawalpur. The enamel from that place is blue, with occasional use of light yellow-green, or a few specks of other colours, on a silver ground. It gives one the idea of aniline rather than of rich metallic oxides. 198 is an inkstand of silver enamel in the form of a state boat. It was made at Jaipur. This shape has been rather popular there, especially if it is made of gold. 199, a small parcel-gilt and enamelled silver bowl from Lucknow, is a good example of the delicate work of that capital. It is champlevé enamel, in which the ground and edges of the design are formed by the plate itself.

Plate 28.—202, 203. These two illustrations, and the two which follow, serve not only to show how the ornaments which are described in the text are worn by ladies in Rajputana and Malwa, but also give some idea of the work of the indigenous artists.

Plate 29.—204, 205. See Plate 28.

Plates 30, 31 and 33 are taken from the third volume of my work on the Jeypore Exhibition of 1883, an edition *de luxe* which was published in 1885 by Mr. Griggs.

Plate 30.—Gold and Enamelled Ornaments. 206 and 207. A pair of earrings with pearl and enamelled drops, which hang from the larger of two crescents which are set with diamonds (Bále Jhabbedár). 208 and 209. Earrings of gold with pearl drops (Latkan.) 210. Forehead ornament. Gold, set with flat diamonds, and having pearl drops hanging from a crescent, from which it takes its name of Chand. 211. A beautiful necklace of gold enamel (Mina-ka-kantha). There are nine beautiful pendants which are, as previously stated, of Tartar or Central Asian form. In one of them which has been turned up, the Pertabgarh enamel will be noticed. The open-work oblong filigree beads between the plaques and at the ends of the silken cord, on which the whole are strung, are particularly pleasing. 212. Necklace of flat gold plates enamelled on both sides at Jaipur. They are strung on silk and separated by small balls of gold or gold cord. To each plate a pearl is pendent, and the fronts are ornamented with the Hindi letters, "Sri Náthji, the revered lord or Krishna," and the backs with the impressions of the two feet of that divinity. In other forms of this necklace, the words in front are "Sri Rámji," or the Revered Rama. Ráma and Krishna were both alleged Avataras or incarnations of the Hindu god Vishnu; but both necklaces are styled Ram Novami-ka-kanthla. 213. Arsi, or thumb ring. This ring has a glass mirror, which is useful in enabling the wearer to get a glimpse of her dress and ornaments, to enable her to adjust them if required. 214. A charm or amulet case, which is usually worn as part of a necklace. These amulets (in Arabic, "tawiz") are generally made of silver or gold. If hollow, as in this case, they may be filled with a composition to give them strength, or may contain an incantation written on Bhoj Patrá (a kind of papyrus) or paper. The ornament which is illustrated is set with the nine precious gems, or Nauratan, the meaning of which has been already fully given.

Plate 31.—215. Rájpat; crown with handsome *krit*, or front ornament, of leaflets of diamonds with emerald pendants, and a central large ruby. Below it is a plaque in which is set a beautiful sapphire worth Rs.20,000, cut into the form of the god Chaturbhuj, the four-armed Vishnu. On either side are sprays of diamonds, and there are also seven crescents of diamonds surrounded by circles. From the rim, which is composed of large diamonds and pearls backed by foil, are suspended large oval pearls. The plume is of blue threads. Value, Rs.91,319 - 9 as. The property of H.H. the Maharaja of Rewah. The foundation of the Rájpat is cloth. The ruby in the centre of the front ornament is very inferior, and is only made presentable by the red foil behind it. The pearl pendants are rough oval stones of large size, many of them having a green hue. The special feature is a sapphire, carved into the form of the four-armed Vishnu. As the sapphire is held by the Hindus to bring misfortune, the subjects of the Raja of Rewah looked upon his selection of such a large specimen for a state head-dress as being most inauspicious.

Plate 32.—216 and 217. These are good specimens of the phul jhumka, which is worn by women in the lower lobe of the ear and suspended by means of pearl and ruby chains from the hair of the head. The jhumka is the lower or bell portion. It is beautifully enamelled. 218. A chand, or crescent-shaped ornament for the forehead, of gold set with diamond lasques, pearl drops and chains. Worn by women. 219. A necklace with pendant, known as Baleora. It is composed of eight flat plaited chains of gold, which are kept together by clasps of enamel or of gold set with diamonds. A circular gold pendant, also enriched with diamonds and having

a pearl drop hanging from the centre. The end clasps are fastened by a screw. The pendant is called the "Dhuk Dhúki," and is set with diamonds, or perhaps more often with white or coloured topazes. It is worn by men only, and chiefly by Brahmans and Jains, or merchants of the ordinary Hindu sects. The flat chains are of ancient form. 220 and 221. Bracelets of chains of gold links, which are united by clasps of gold set with precious stones and fastened by a screw. Chiefly worn by men. "Mardani pahunchi." The Indian screw turns in the opposite direction to the European one. Some years ago, when the learned Hungarian patriot, the late Herr Pulski, was kindly conducting me round the Museum at Pesth, of which he was the curator, he referred to me the important question whether some bracelets, which had been found buried in Hungary, were of European or Oriental origin. It had not occurred to him to apply this test, but when he did so, on the spot, and found that the screw-head was of the Oriental turn, he seemed thoroughly pleased and satisfied with what appeared to be a solution of his difficulty.

PLATE 33.—Two diagrams, the originals of which are the work of a Hindu Masawir or painter at Jaipur, are reproduced in this plate in order to shew the usual position in which the different ornaments are worn by ladies of rank and wealth, especially in Jaipur, Jodhpur, Bikanir, and adjacent States in Rajputana. Some of the more common brass ornaments worn by Bhil women are also shewn. They are reproduced from a lithographic illustration, by Mr. J. Schomburg, to a paper of mine which was read before the Bengal Asiatic Society, and published in its Journal in 1875. 222. The forearm and a complete set of ornaments for it as follow, beginning from the elbow :—1. Bangri ; 2. Churi, lac bracelets which may be jewelled. 3. Naugari ; 4. Pahunchi ; 5. Kara ; 6. Hathphul ; 7. Arsi ; 8. Anguthi or Mudri ; 9. Chhalla. 223. Ornaments for the legs as follow, from the knee downwards :—1. Sada Kara, or a plain solid ring ; 2. Chandana-ki-neori, an anklet ornamented with quatrefoils (literally, four grains) ; 3. Balkan-kara, a ring with spiral or twisted (balkan) pattern ; 4. Hira-nama-kara, anklet studded with diamonds ; 5. Aunla-bhánt, that is, after the fashion of the Aunla (*s.*) or emblic myrobolan (*Phyllanthus emblica*) plant ; 6. Tara-bhánt-neori, bracelet of star-shaped pattern ; 7. Sosan-ke-neori ; Sosan is the Arabic for lily, scrolls of which form the ornament ; 8. Jawár-bhánt-neori, a bracelet having a pattern like the grains of Jawar or Joar (*h.*), a species of millet (*Sorghum vulgaris*) ; 9. Boradar-kara, a tubular anklet ; 10. Marahti or Marethi, either a twisted bracelet, or according to local explanation, one which was introduced into Rajputana by the Mahrattas ; 11. Chhara ; the word appears to mean composed of chains ; it is also used for an ornament of pearls for the ears ; 12. Chhalla, Anguthi, toe-rings. Full information of most of the above ornaments has already been given. 224 to 232. Brass ornaments worn by Bhil women in the Hill Tracts of Mewar or Udaipur, Rajputana. They are sharp-edged and rough, but worn smooth by friction. "The Bhil women," I observed in the paper above referred to, "adopt the mode of the inhabitants of Gujarat in dressing their hair, which is parted into little squares, and covered with small grape-like ornaments. They wear on their arms and legs the lac and glass *chúris* of the poor Hindu ; but their national bangles and bracelets are made of brass. In a set of bracelets there are four rings :—1. A plain bevelled ring (225). 2. One semi-oval in section (226). 3. A double plain flat ring (227). 4. A rough grooved ring with an octagonal boss (228). Weight for one arm, $6\frac{1}{4}$ ounces. For the leg there are five ornaments :—1 and 2. Two plain rings, semi-oval in section (229 and 230). 3 and 4. Two flattened sharp-edged ones (231 and 232). 5. A W-shaped ornament, worn only by married women (224). Weight of bangles for one leg, $11\frac{1}{2}$ ounces. Total weight of brass ornaments, $35\frac{1}{2}$ ounces, or 2 lbs. $3\frac{1}{2}$ ozs., an enormous load to drag about the hills, but nothing to be compared to a Hindu Pátrani (head queen), who will wear half a maund (forty pounds) on a festival day. The young women wear necklaces of beads." A young woman may often be seen waiting at the blacksmith's to have a new brass leg ring fastened in place. A complete equipment forms a long case for the leg and a protection against snakes and thorns as she passes through the long grass. The Rev. C. S. Thompson, in his Bhili Grammar and Vocabulary, refers to a lac armlet, which is worn on the upper arm by mothers only ; to wedding anklets, anklets, anklets with bells, earrings worn by men, wooden earrings, nose rings, long and short necklaces, and finger and toe-rings. The names of the different ornaments appear to be so similar to those in use in Gujerat and neighbouring districts that they do not seem to be national.

PLATE 34 is taken from a paper by me on "The Process employed in Casting Brass Chains in Rajputana," which was written at the request of Mr. C. P. (now Sir Purdon) Clarke, C.I.E., of the Victoria and Albert Museum, South Kensington, and read by him before the members of the Iron and Steel Institute, and afterwards printed in their Journal, No. II., for 1886. The illustrations were drawn by a native artist at Jaipur. A condensed account of the process has been given on a preceding page ; it will suffice, therefore, to briefly describe the figures on the plate. 233 represents a man heating the wax, resin and oil composition, from which the model sánth or anklet is made. 234 shews the workman rolling out a wax cylinder to form a thin wax rod. In 235 he is seen winding the rod round a wooden stick to form a series of links. Beside him are his tools. In 236 he

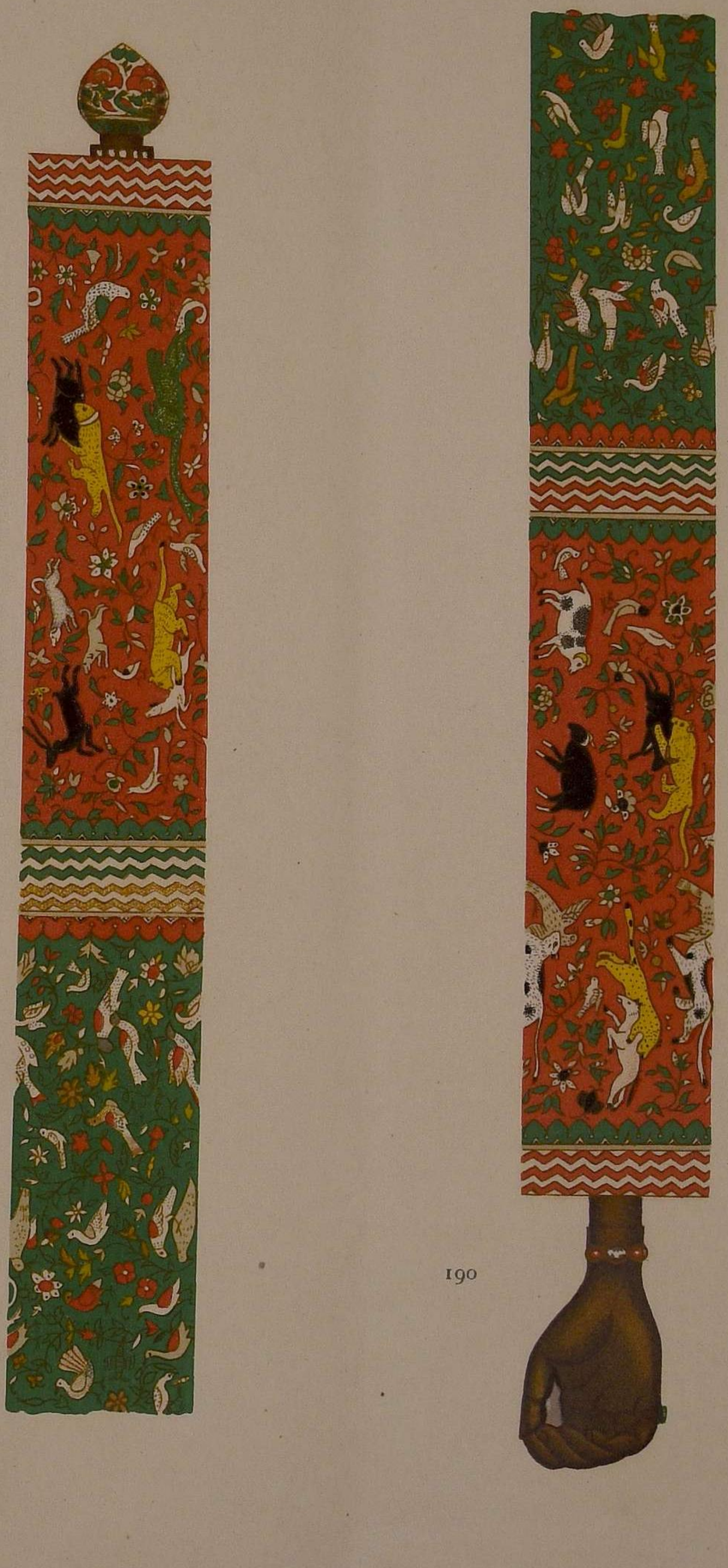
flattens out the links and interlocks them. In 237 he makes the moulds from clay. In 238 he prepares a fire of cow-dung cakes in which to heat the moulds; the fire being heightened by rude bellows not shewn in the illustration. Lastly, in 239 and 240 we have two views of the metal anklets as they appear if portions of the mould are cut away.

Plate 35.—241 to 249. Ornaments which are usually made of base metal for women of the lower classes in the United Provinces of Agra and Oudh and the adjacent parts of the Punjab, Rajputana and Malwa. 241. Bracelet of gilt metal with cone-shaped wire ends. The wire is also twisted for a short distance round the square mass of the bracelet (Kara). 242. Anklet (Laung-ka-sánth). A sánth with clove-like ends to the knobs. The process of manufacture of the interesting ornaments of this type has already been fully described. 243. Anklet (Chaktidar Sánth). This ornament is still more elaborately ornamented than 242. 244. Anklet (Sutwan Santh). In this form the links are plain or thread-like. 245. Anklet (Kara). This pierced ornament, which is also enriched with knobs, may be made of silver. It is worn by Brahman, Rajput and Baneah women. 256. Anklet (Bánk). It fastens with a screw and is hinged. It is hollow, and may be filled with pebbles or chips of metal. It is a rude ornament and is worn only by the lowest classes. 247. Small balls which are attached to a cord worn round the waist by dancing girls and by children of the lowest classes. 248 and 249. Anklets (Gujri) of rude stiff form, which are worn by girls and grown-up women of the lower classes.

With reference to the observations on page 26, Part II., that Hindu ladies of rank wear gold ornaments on the toes, it has been ascertained from Pandit Braj Balabh of Jaipur that there is no religious reason against their use. It is a special mark of high rank. In the Native States, only Ranis or queens, and the wives of nobles, are permitted to wear gold jewellery on the feet. When the Maharaja, or ruling chief, as a mark of distinction, makes anyone a Tazimi Sardar, or noble, he is also given a grant of land, and thenceforward his wife is permitted to wear gold rings on her toes and gold bangles on her feet. Gold ornaments for the feet are also offered to the gods.

LIST OF ILLUSTRATIONS.

25. Portraits of four Rajputana Chiefs. 26. Gold and enamelled Back-scratcher. 27. Enamelled jewellery. 28, 29. Portraits of ladies of Rajputana and Malwa wearing jewellery. 30. Gold and enamelled jewellery. 31. Crown. 32. Gold jewellery. 33. Diagrams shewing arm and foot ornaments. 34. Process of casting brass chains in Jaipur. 35. Ornaments usually made of base metal.



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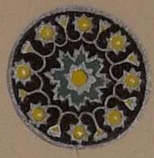
26.—190. Gold and Enamelled Back-Scratcher (*Pushtkar*).
Reproduced from "Ulwar and its Art Treasures," 1888.



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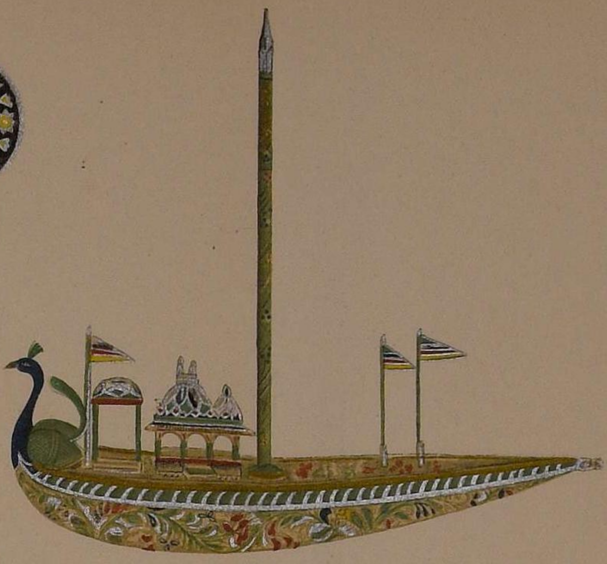

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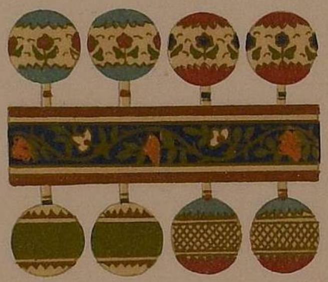

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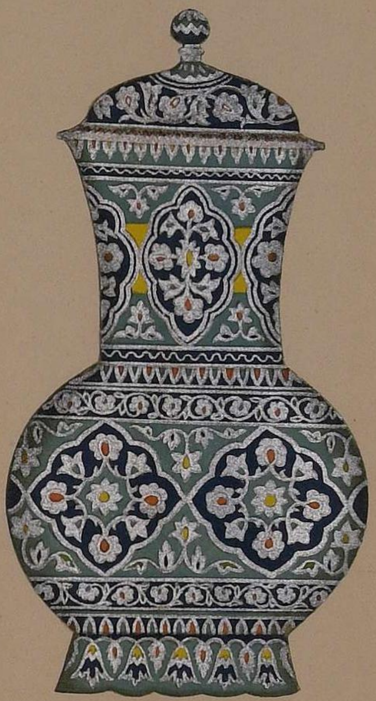

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A.195

27.—Reproductions from A "Jeypore Enamels," 1886, and B "Handbook to the Jeypore Museum." 1895, (See text).

A 191 to 194. Necklace pendants. A.195. Neck Ornament from Marwar (Arya). A.196. Part of Bracelet. B 197. Silver Enamel Vase (Bahawalpur). B 198. Silver Enamel Inkstand (Jaipur). B.199. Parcel gilt silver enamel bowl (Lucknow). B.200. Hair ornament. B.201. Button. Both silver enamel (Multan).

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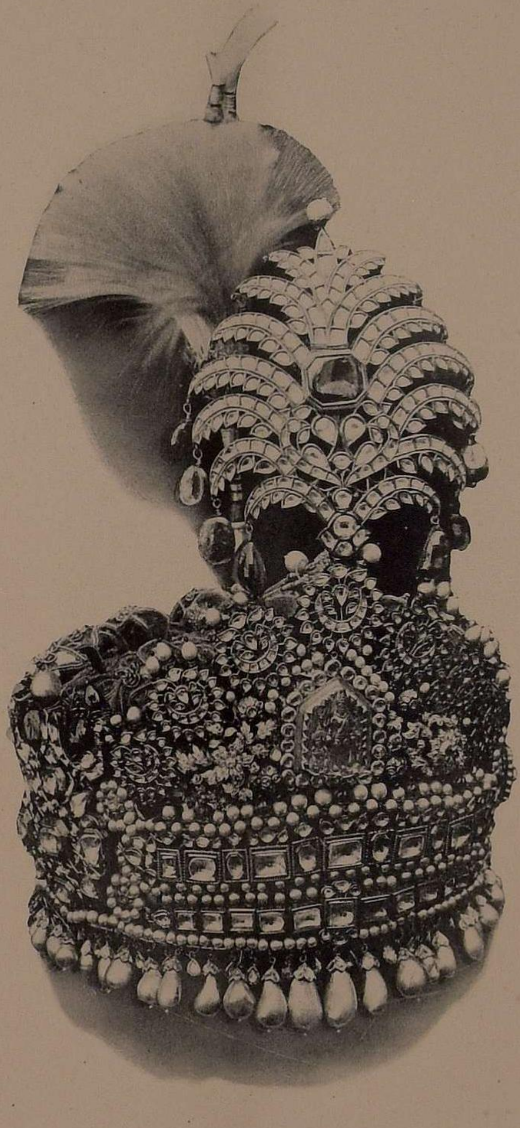
205.

29.—204 and 205. Portraits of ladies of Rajputana and Malwa wearing jewellery (By an indigenous artist).

30.—Reproduced from Vol. III. "Jeypore Memorials". Gold and Enamelled Jewellery.

206 and 207. Earrings (Bále Jhabbedár). 208 and 209. Earrings (Latkan). 210. Forehead ornament (Chánd). 211. Necklace (Kathal, mine ka). Enamelled plaques and gold bands strung on silk. 212. Necklace of enamelled plaques strung on silk (Kathla Rám Novami). 213. Thumb ring (Arsi). 214. Amulet (Nauratan or Tawiz Nauratan).



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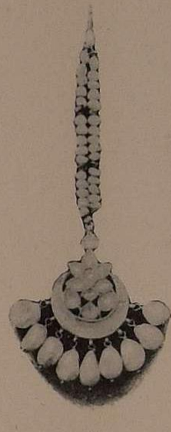
31.—Reproduced from Vol. III. "Jeypore Memorials," 1885.

215. Crown (Rájpat). Gold set with gems. In front is a cut sapphire. Value Rs. 91,319.

Property of H.H. The Maharaja of Rewah.

216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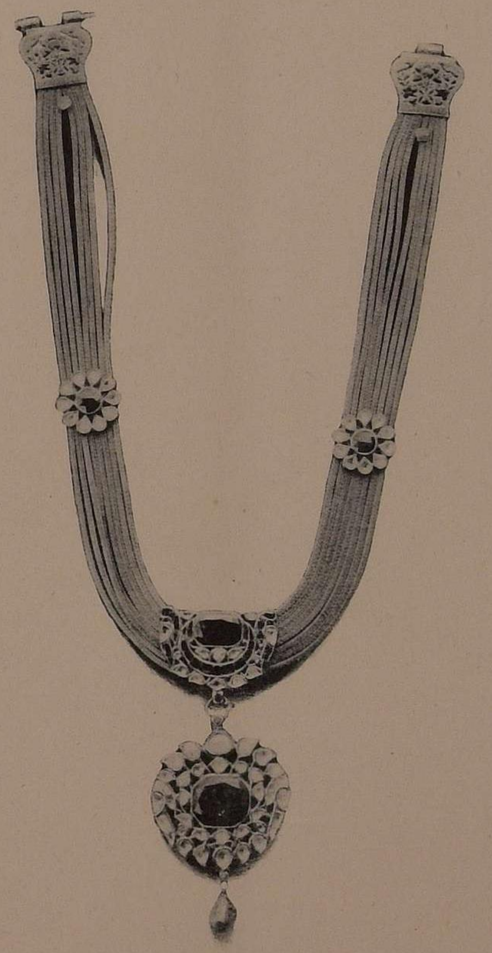
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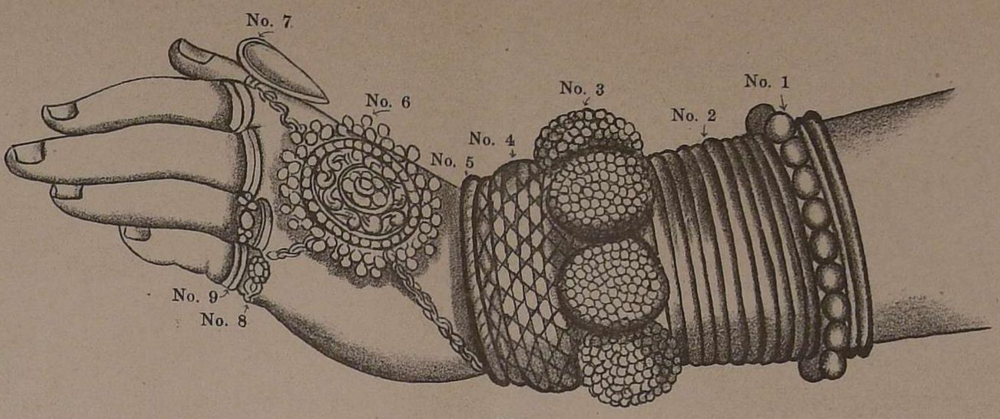
32.—Reproduced from Vol. III. "Jeypore Memorials," 1885. Gold Jewellery.

216 and 217. Ear ornaments (Phul Jhumka). Pendent from the lobe of the ear and from the hair by pearl strings. 218. Crescentic forehead ornament (Chand). 219. Necklace of flat chains with clasps and pendant (Baleora). Usually worn by men only in Rajputana, especially by Brahmans, Jains, and the mercantile classes. 220 and 221. Chain bracelets (Mardani Pahunchi). Usually worn by men.



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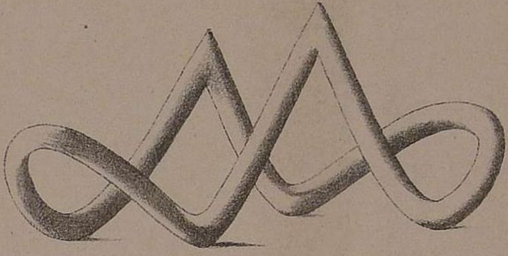

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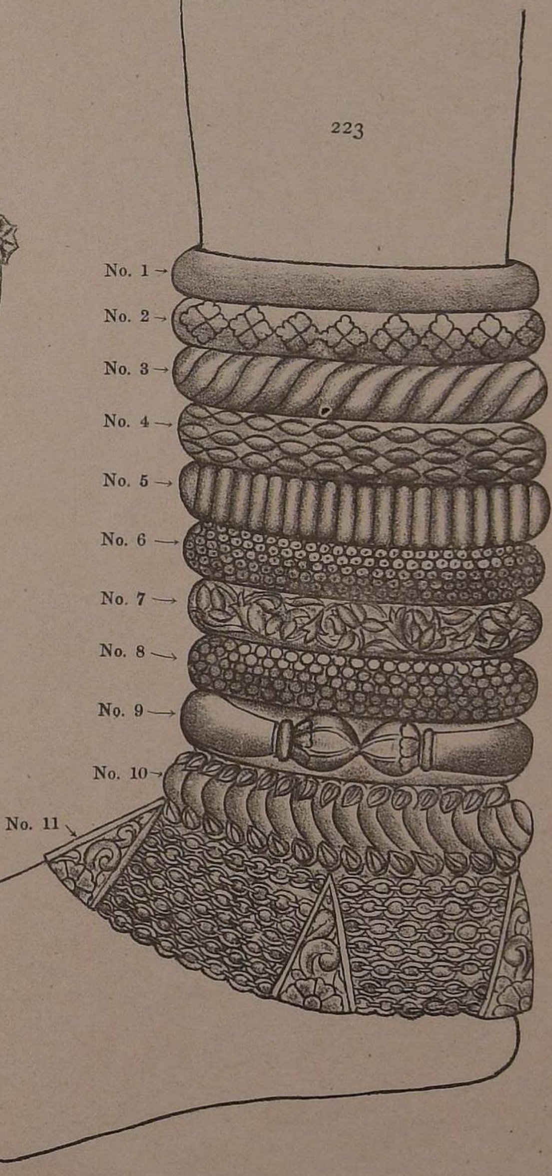

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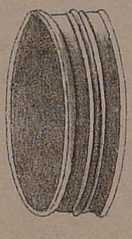

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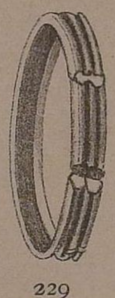

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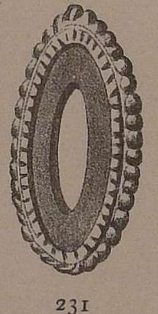

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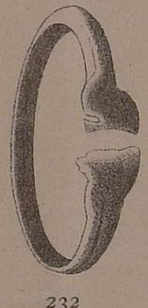

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33.—222. Diagram shewing Arm Ornaments worn by Hindu ladies in Rajputana and Malwa. 1. Bangri. 2. Churi. 3. Naugari. 4. Pahunchi. 5. Kara. 6. Hathphul. 7. Arsi. 8. Anguthi or Mudri. 9. Chhalla.

223. Similar Diagram to 222 of Foot Ornaments. 1. Sada-kara. 2. Chaudana-ki-Neori. 3. Balkan-kara. 4. Hira-numa-kara. 5. Aunla-bhánt. 6. Jara-bhánt-neori. 7. Sosan-ke-neori. 8. Juwar-bhánt-neori. 9. Boradar-karâ. 10. Maraithi. 11. Chhara. 12. Chhalla, Anguthi.

224 to 232. Bhil brass ornaments.

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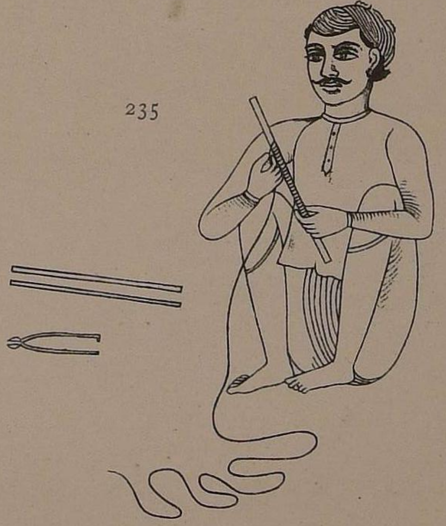
A The vessel in which the wax and rál are melted.
B The vessel containing cold water into which the mixture is dropped.

234

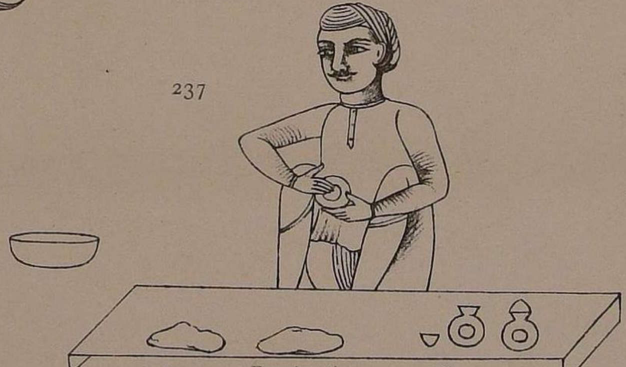
Rolling out the wax cylinder to form the thin wax rod.

235



Winding the thin wax rod into a coil round the wooden stick.

237



Forming the mould from clay.

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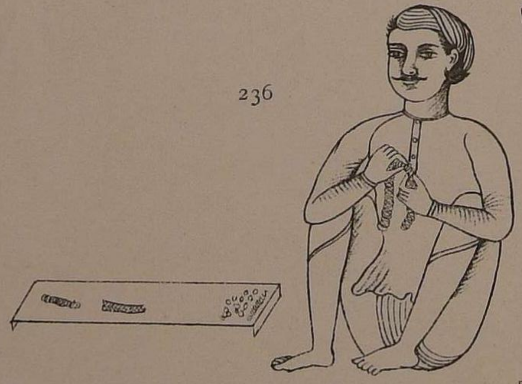
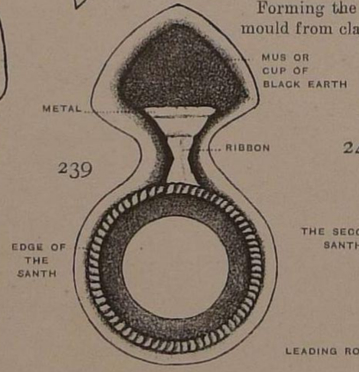


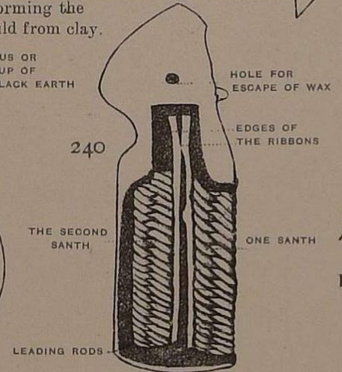
Flattening out the rings of the wax models.

239



Mould cut open on one side after the anklets are cast.

240



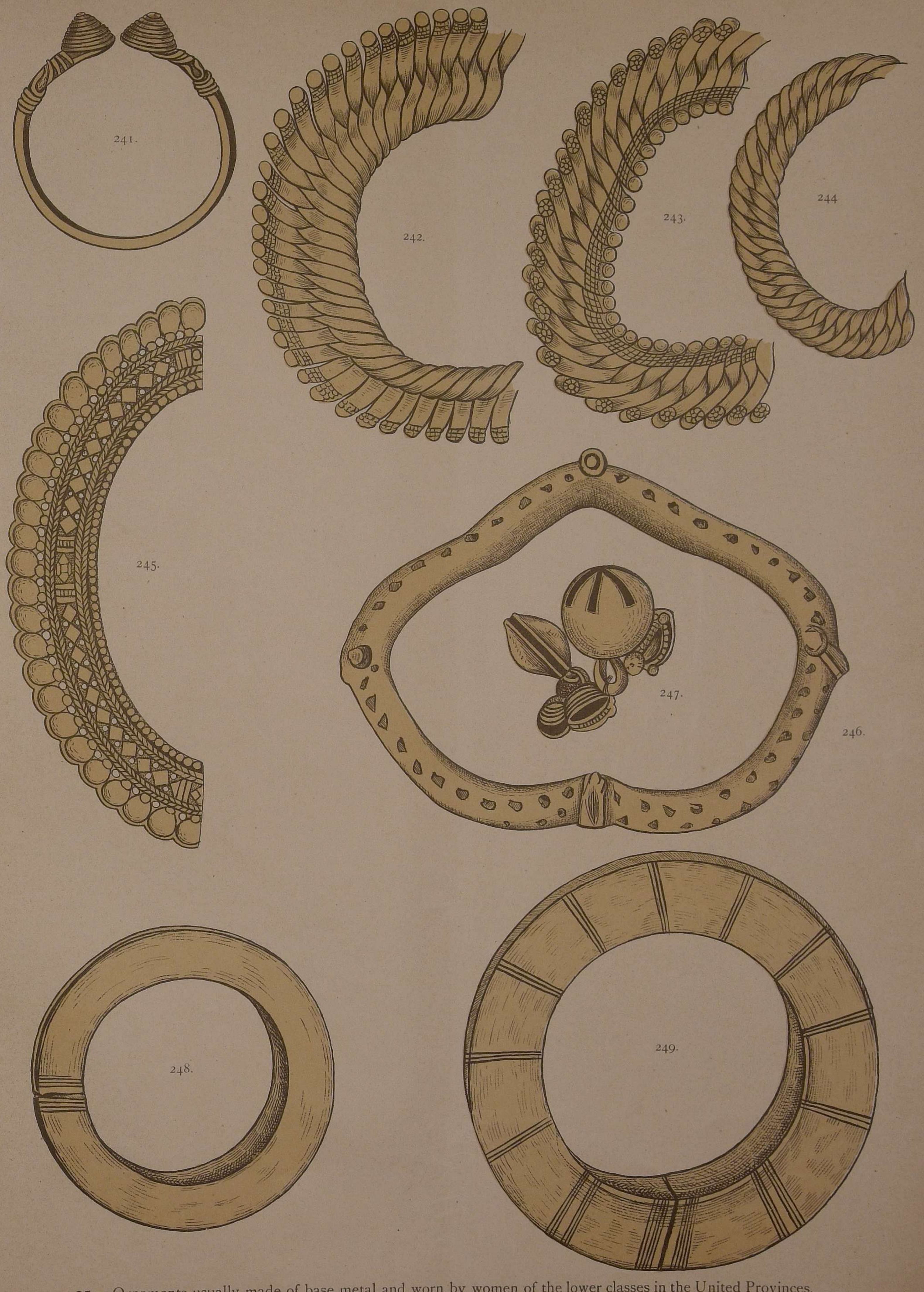
Mould cut open on the edge to show pair of sanths.

238

Pile of burning cow-dung cakes in which the moulds are heated.

34.—The Process employed in Casting Brass Chains in Jaipur, Rajputana.

Drawn by a native artist   Reproduced from a paper contributed to the Journal of the Iron and Steel Institute.



35.—Ornaments usually made of base metal and worn by women of the lower classes in the United Provinces, Rajputana, and adjacent districts.

241. Bracelet, gilt metal (Kara). 242 to 244. Varieties of the Santh anklet. 245. Anklet (Kara). Worn by high-class women. 246. Hollow anklet worn by women of the lower classes (Bank). 247. Bells worn on strings round the waist by dancers and by children of the menial classes. 248. Anklet (Gujri) worn by low caste girls. 249. Anklet (Gujri) worn by low caste women.

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